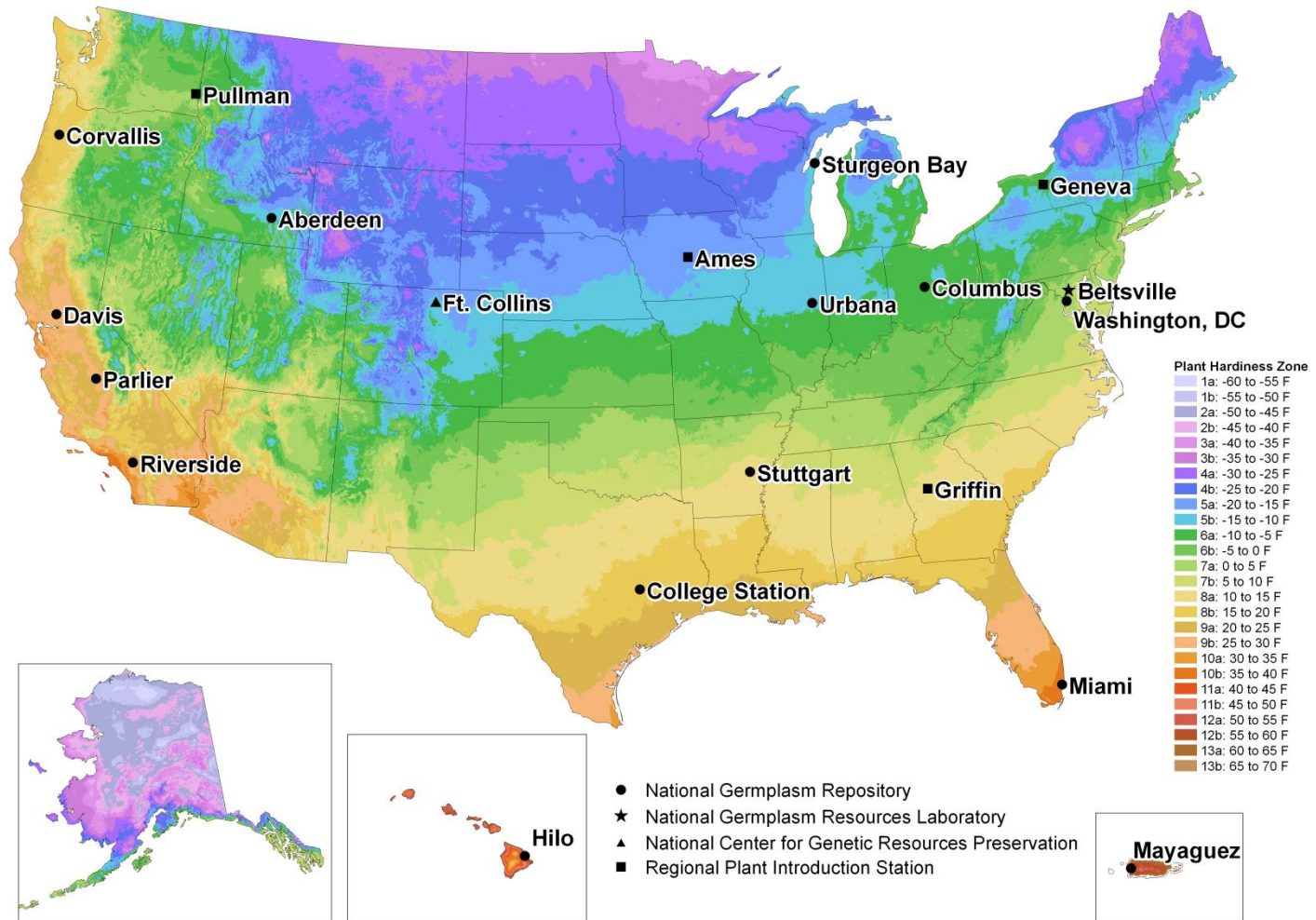


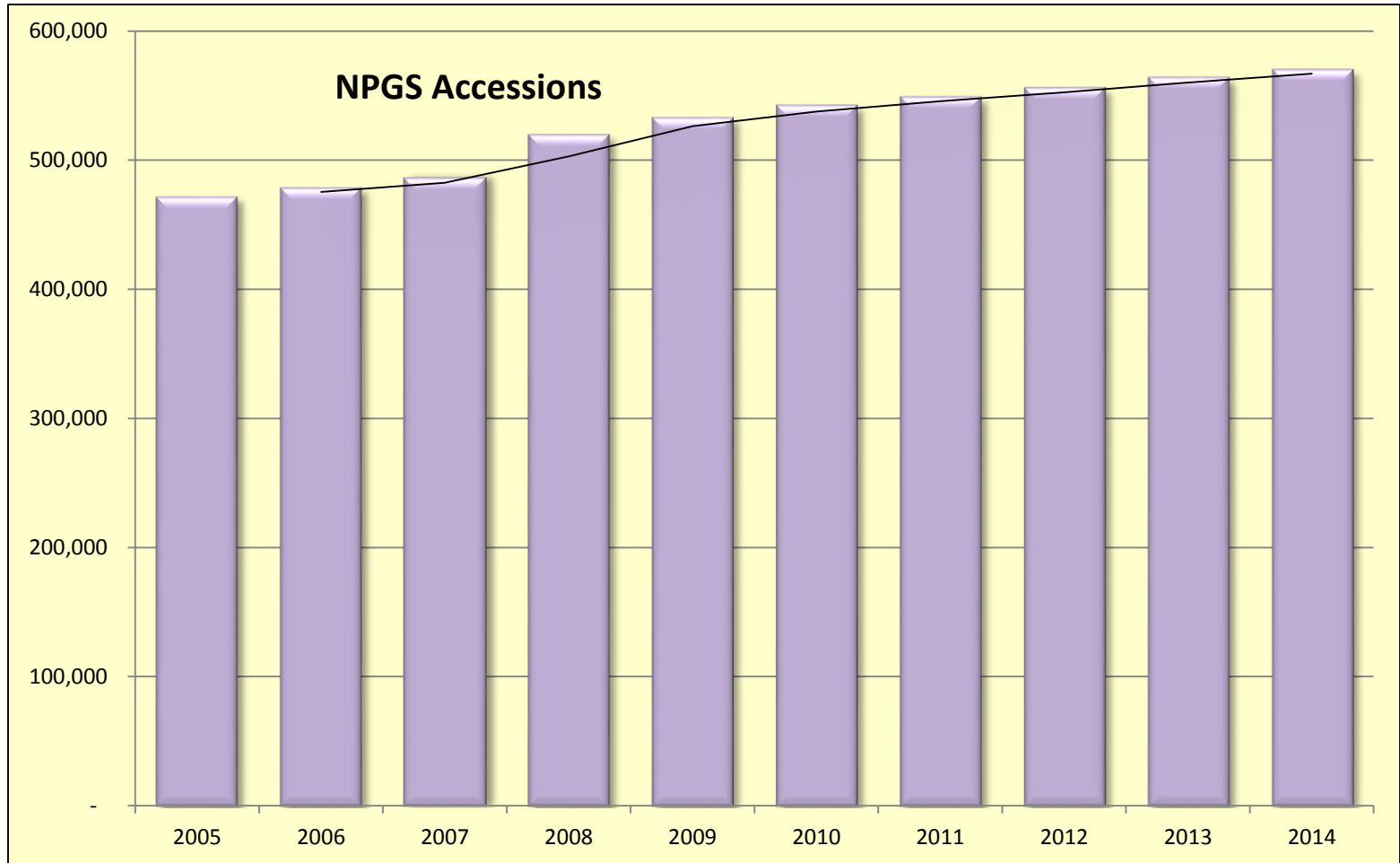
The National Plant Germplasm System: 2015 Status, Prospects, and Challenges

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USDA National Plant Germplasm System (NPGS)

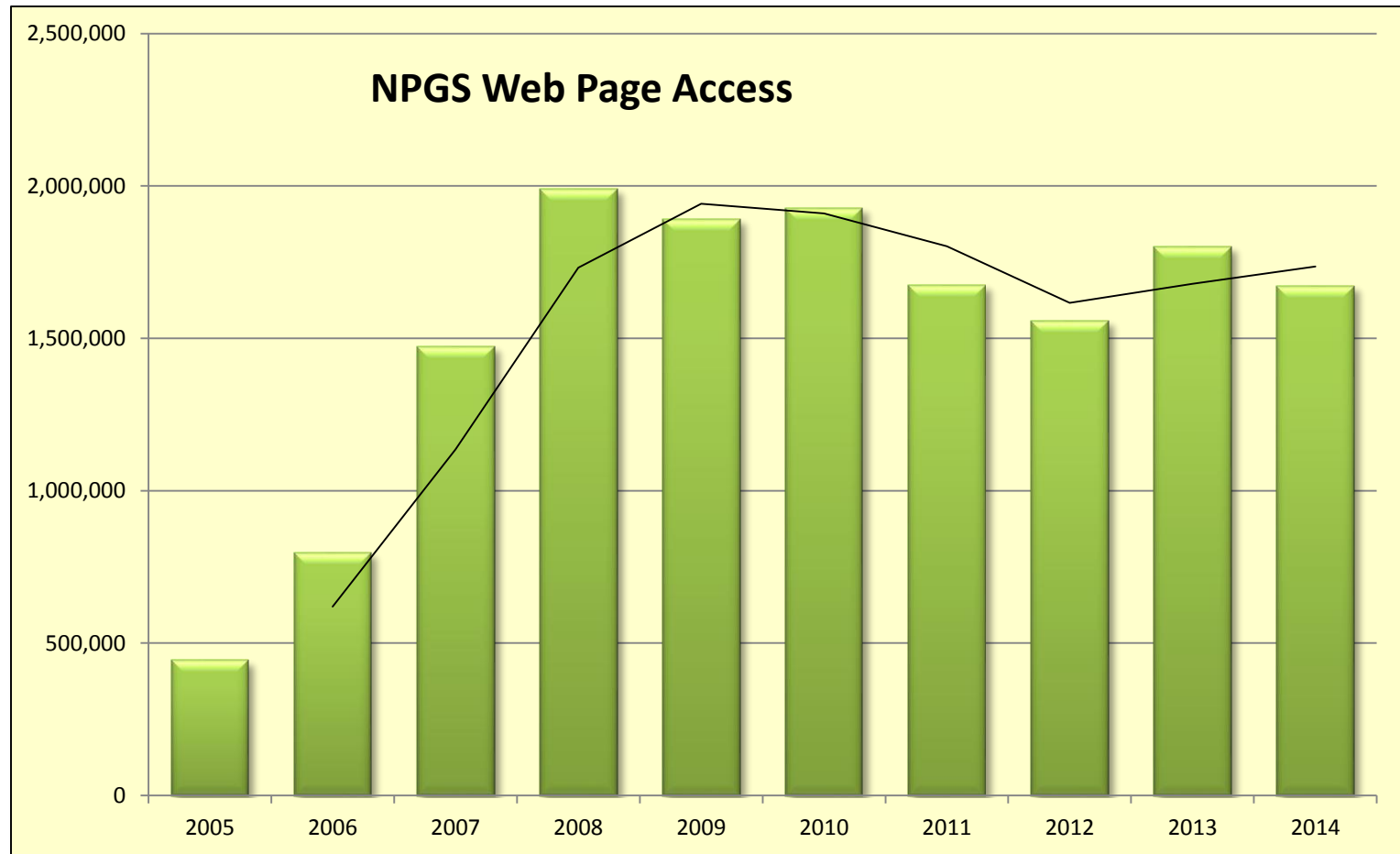


NUMBER OF NPGS ACCESSIONS 2005-2014

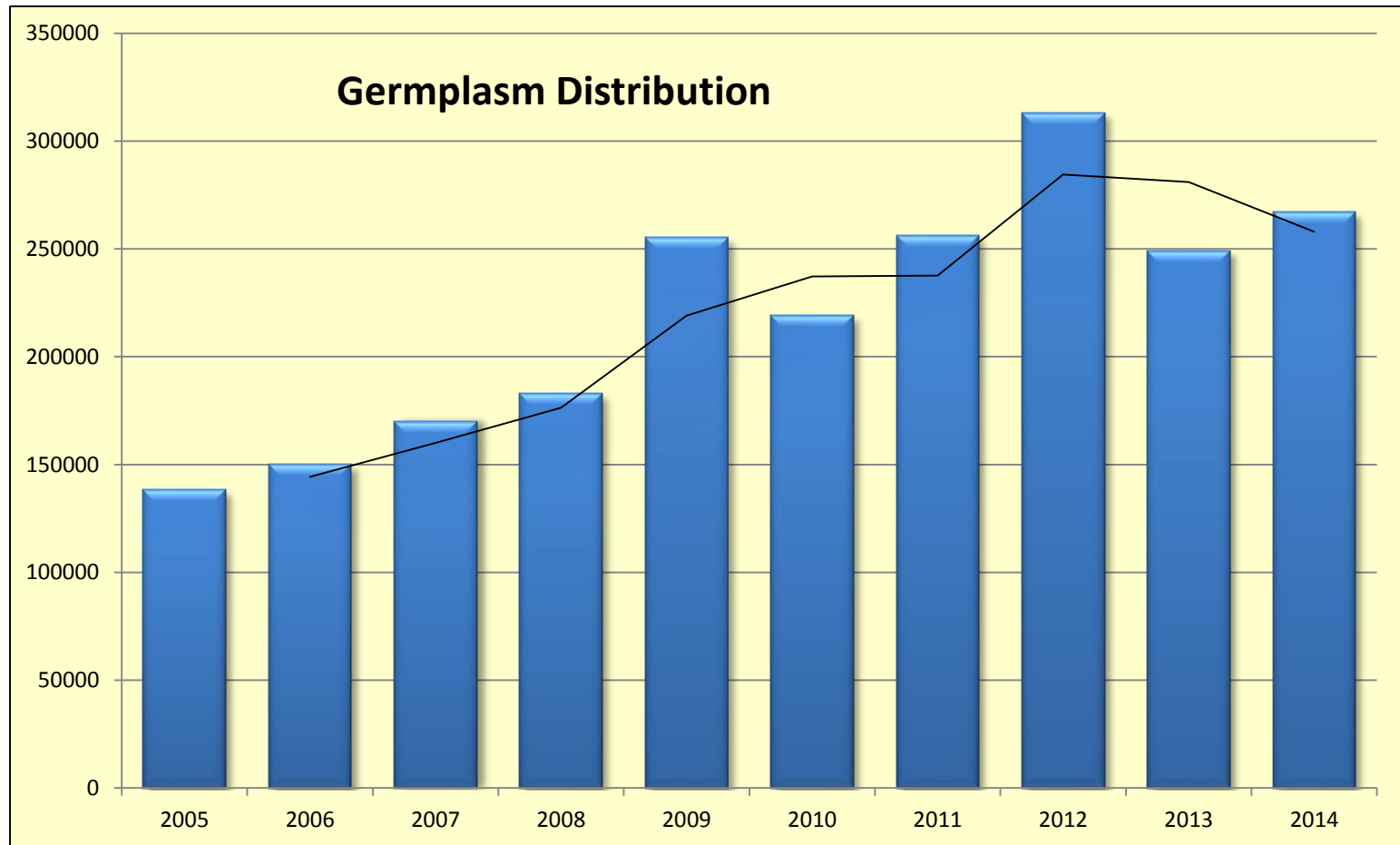


DEMAND FOR NPGS INFORMATION

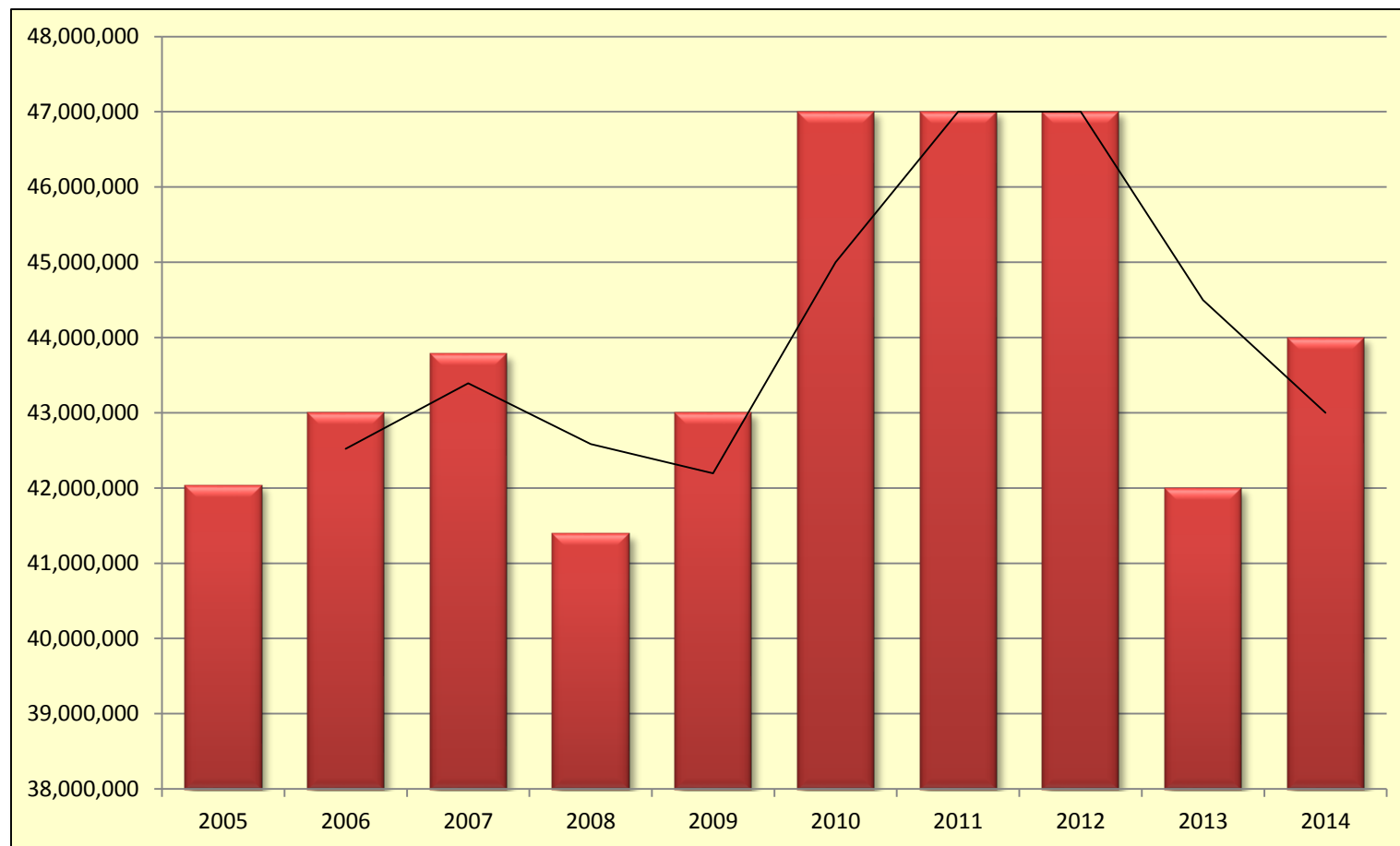
2005-2014



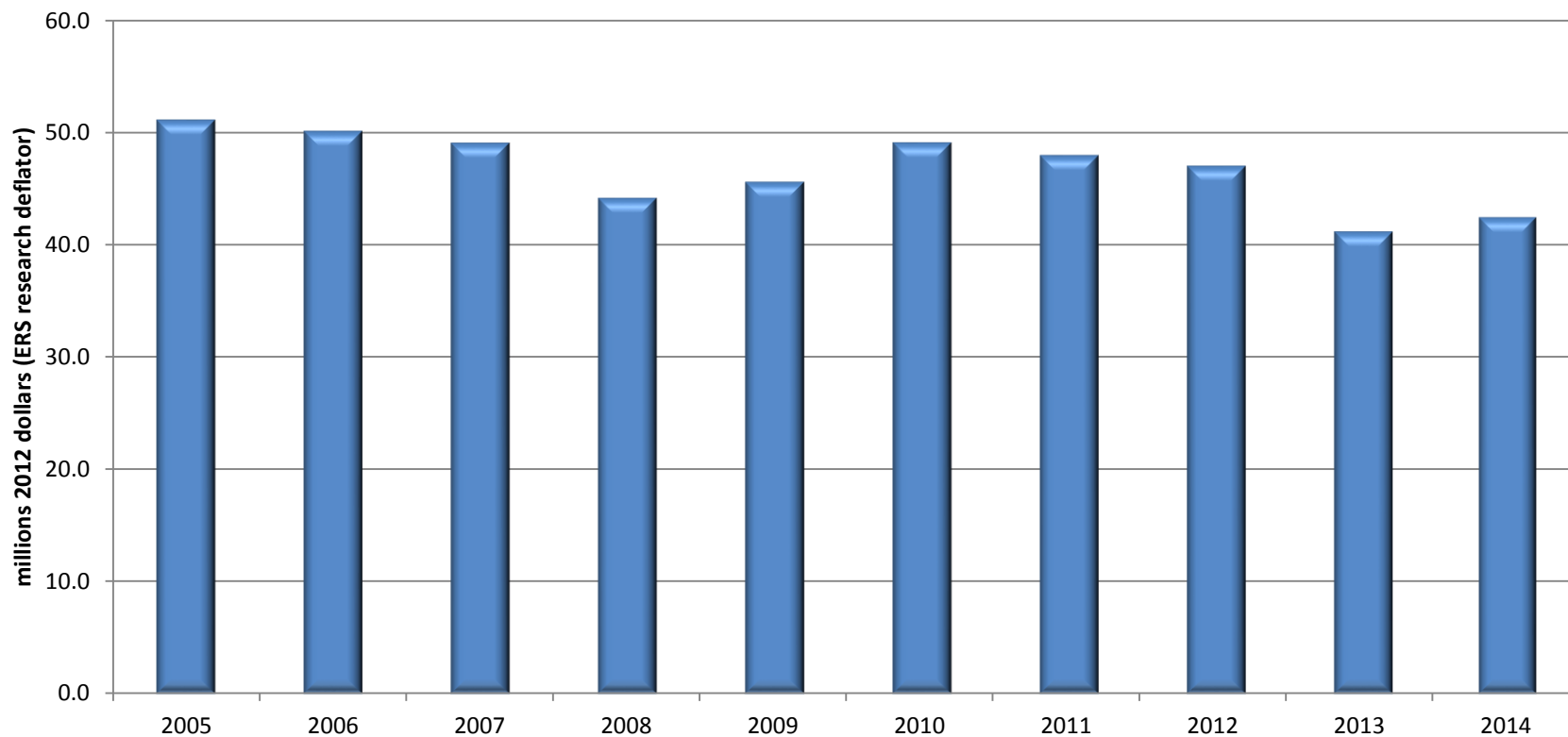
DEMAND FOR NPGS GERMPLASM 2005-2014



ARS NATIONAL PLANT GERMPLASM SYSTEM BUDGET 2005-2014



Real ARS National Plant Germplasm System Budget, 2005-2014
converted to 2012 dollars with ERS research deflator



FY 2016 President's Budget Proposal

- The President's FY 2016 budget proposal for the USDA/ARS requests funding increases of about \$3.475 million for the National Plant Germplasm System.
- \$1.5 million: under the Sustainable Small Farm Initiative, specifically the sub-initiative Expand the National Plant Germplasm System (\$1 million increase) and Provide training/information to Native Americans on conserving/improving traditional crops (\$500,000 increase).
- \$1.5 million: under Translational Crop/Livestock Genetics Initiative, specifically under the sub-initiative Analyze genetic stocks/specialized populations using advanced genomics/genetic technologies.
- \$475,000: under Vertical Farming Initiative, specifically under the sub-initiative Develop high value horticultural varieties that are adapted for growth in greenhouses/urban environments.

Some key challenges that stretch the NPGS's budgetary resources

- **Managing and expanding the NPGS operational capacity and infrastructure to meet the increased demand for germplasm and associated information**
- **Fulfilling the demand for additional germplasm characterizations/evaluations**
- **Acquiring and conserving germplasm of crop wild relatives**
- **Managing genetic/genomic seed stocks**
- **BMPs and procedures for managing accessions (and breeding stocks) with GE traits and the occurrence of adventitious presence (AP)**

Genetic Resource Management Priorities

- **Acquisition**
- **Maintenance**
- **Regeneration**
- **Documentation and Data Management**
- **Distribution**
- **Characterization**
- **Evaluation**
- **Enhancement**
- **Research in support of the preceding priorities**

DiversitySeek (DivSeek) Initiative

- **Mission--to enable breeders and researchers to mobilize a vast range of plant genetic variation to accelerate the rate of crop improvement and furnish food and agricultural products to the growing human population.**
- **Build on existing, emerging and future initiatives to characterize crop diversity and develop a unified, coordinated and cohesive information management platform to provide easy access to genotypic and phenotypic data associated with genebank germplasm.**
- **Its partners currently include 58 public-sector agricultural research institutions from many nations, including Clemson, Cornell, Iowa State, UC-Davis, Georgia, Minnesota, Missouri, and USDA/ARS.**
- **The DivSeek Steering Committee (includes P. Bretting) met on 29 May 2015 in Rome to address specific details for the organization, function, and scope for the Initiative.**

ARS Big Data Initiative

- **FY 2015-2019, \$25 M**
- **“Science DMZ”**
 - **Dedicated scientific research network for data computing**
- **High-performance computing (HPC) system**
 - **Hybrid of local and cloud resources**
 - **Storage and efficient processing of ARS data**
- **Virtual research support core**
 - **Experts to staff the new infrastructure**
 - **Provide computational research support**